

NOVEMBER 2019 Update

Macro Base Station Transceiver Update

Major changes to the forecast over the last three months include:

1. We've updated our 5G macro base station forecast over the long term, adding significant base station deployment for C-Band in the USA starting in 2022 due to the positive progress toward consensus on C-Band spectrum allocations. It appears likely now that 300 MHz will be set aside for operators and that satellite users will be willing to vacate the spectrum.
2. In our last update, we anticipated that Huawei would run out of FPGA RFSoc inventory by the end of October, and our estimate now appears to be accurate. We have adjusted our 2019 forecast for 5G base stations only slightly in China.
3. We've slightly reduced our expectation for 5G deployment in the USA below 6 GHz in 2019, due to ongoing deployment of LTE as the primary mode by T-Mobile. At this point we expect T-Mobile to execute a software upgrade for their 600 MHz, to 'light up' 5G about the end of December 2019.
4. We've reduced our 2020 forecast for LTE to indicate a steeper drop in LTE shipments, with capital in China, Japan, USA, and Europe starting to flow into 5G NR projects.
5. We have slightly adjusted the mix of 32T32R and 64T64R radios, to reflect higher use of 32T in the USA and Europe in the 2022-2024 timeframe. The compromise between antenna size/weight and capacity appears to favor the smaller configuration for 30% of sites, instead of the 20% we had forecasted. This mix will continue to adjust as the operators learn more about using massive MIMO.
6. Market shares have been updated to match with the latest OEM earnings announcements. As we predicted, Huawei has slowed down in its production of 5G base stations, so we have cut Huawei's market share in 5G for Q3 accordingly. ZTE, on the other hand, has ramped up to top speed for 5G in China, with 70K base stations shipped between July and October. We have reduced Nokia's market share based on their latest earnings and outlook (only 1% YoY growth in networks), but Nokia's share of shipments is not the main issue...it's more about their profitability. Ericsson has continued to perform well in 5G with 4% networks growth YoY, so Ericsson remains more or less where they were last quarter.